

L7 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:534154 CAPLUS  
DN 141:90890  
TI Process for the hydroformylation of ethylenically unsaturated compounds in the presence of an **acid** and a mono tert-phosphine  
IN Drent, Eit; Jager, Willen Wabe  
PA Shell Internationale Research Maatschappij B.V., Neth.  
SO PCT Int. Appl., 19 pp.  
CODEN: PIXXD2

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004054947	A1	20040701	WO 2003-EP51030	20031216
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004152923	A1	20040805	US 2003-737651	20031216
	US 6818797	B2	20041116		
PRAI	EP 2002-258670	A	20021217		
OS	MARPAT 141:90890				

AB The invention pertains to a process for the hydroformylation of an ethylenically unsatd. compound in the presence of an **acid** with a  $pK_a < +3$ , and a catalyst of a group VIII metal and a bidentate **ligand** of the formula:  $R_1R_2-P-X-P-R_3R_4$  wherein P is a phosphorus atom, X represents a bivalent organic bridging group, R1, R2, R3 and R4 represent independently a substituted or unsubstituted hydrocarbonyl group, or R1 and R2 together with the phosphorus atom to which they are bonded and/or R3 and R4 together with the phosphorus atom to which they are bonded represent a bivalent substituted or unsubstituted cyclic group, characterized in that the process is performed in the presence of a mono tert-phosphine, wherein the ratio moles of mono tert-phosphine : moles of **acid** is from 1 : 1 to 10 : 1.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:287828 CAPLUS  
DN 140:305766  
TI Process for the production of primary **alcohols** with a group VIII catalyst  
IN Drent, Eit; Van Der Made, Renata Helena  
PA Shell Internationale Research Maatschappij B.V., Neth.  
SO PCT Int. Appl., 23 pp.  
CODEN: PIXXD2

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004029014	A1	20040408	WO 2003-EP50650	20030924
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				

FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,  
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2004133050 A1 20040708 US 2003-669916 20030924

PRAI EP 2002-256698 A 20020926

OS MARPAT 140:305766

AB A process for producing primary **alcs.** from secondary **alcs.** and/or tertiary **alcs.** and/or ketones, comprises reacting a compound selected from a secondary **alc.**, a tertiary **alc.**, a ketone, or mixts. thereof, with **carbon monoxide** and **hydrogen** in the presence of a catalyst based on: (i) a source of Group VIII metal, (ii) a bidentate **ligand** having the general formula R1-R2M1-R-M2R3R4 (I) wherein M1 and M2 are independently P, As or Sb; R1 and R2 together represent a bivalent substituted or unsubstituted cyclic group whereby the two free valences are linked to M1; R3 and R4 independently represent a substituted or unsubstituted hydrocarbyl group, or together represent a bivalent or non-substituted cyclic group whereby the two free valencies are linked to M2; and R represents a bivalent aliphatic bridging group; and (iii) an **acid** having a **pKa** of 3 or less which is in excess over the Group VIII metal.

L7 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:636081 CAPLUS

DN 131:244828

TI Hydroformylation of olefin feeds containing dienes

IN Drent, Eit; Van der Steen, Frederik Hendrik; Moene, Robert

PA Shell Internationale Research Maatschappij BV, Neth.

SO Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 943597	A2	19990922	EP 1999-200792	19990315
	EP 943597	A3	20000112		
	EP 943597	B1	20030604		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6156936	A	20001205	US 1999-256600	19990223
	ZA 9902025	A	19990927	ZA 1999-2025	19990312
	SG 75937	A1	20001024	SG 1999-1372	19990313
	CA 2265318	AA	19990916	CA 1999-2265318	19990315
	JP 2000159707	A2	20000613	JP 1999-69099	19990315
	ES 2195505	T3	20031201	ES 1999-200792	19990315
PRAI	EP 1998-200827	A	19980316		

OS MARPAT 131:244828

AB In a process for the hydroformylation of a feed comprising compds. having a single ethylenically unsatd. group by reaction thereof in the liquid phase with **carbon monoxide** and **hydrogen** in the presence of a catalyst system comprising (a) a source of palladium cations; (b) a source of anions; (c) a source of at least one bidentate **ligands** of the formula R1R2M1RM2R3R4 wherein M1 and M2 independently represent a phosphorus, arsenic or antimony atom, R represents a bivalent bridging group containing from 1-4 atoms in the bridge, R1 and R2 independently represent a substituted or unsubstituted hydrocarbyl group, or together represent a bivalent substituted or unsubstituted cyclic group whereby the two free valencies are linked to M1, and R3 and R4 independently represent a substituted or unsubstituted hydrocarbyl group, or together represent a bivalent substituted or unsubstituted cyclic group whereby the two free valencies are linked to M2; and (d) a source of halide chosen from the group of chloride, iodide and bromide and mixts. thereof; the ethylenically unsatd. feed comprises one or more dienes and/or further multiply unsatd. alkenes to an amount of 0.005 - 5 % based on the total amount of ethylenically unsatd. compds. in the feed, and component (b) of the catalyst system is a source of anions of an **acid** having a **pKa** value, measured in aqueous solution at 18 °C, of between -1 and 4. A mixture of C11-12  $\alpha$ -olefins

and 1,7-octadiene was hydroformylated using a palladium acetate-1,2-bis(1,4-cyclooctylene-phosphino)ethane-trifluoromethanesulfonic acid catalyst system.

(FILE 'HOME' ENTERED AT 15:57:21 ON 06 MAR 2005)

FILE 'CAPLUS, CAOLD' ENTERED AT 15:58:08 ON 06 MAR 2005

L1	37138 S CARBON MONOXIDE AND HYDROGEN
L2	139397 S CARBON MONOXIDE
L3	37138 S L2 AND HYDROGEN
L4	937 S L3 AND LIGAND
L5	229 S L4 AND ACID
L6	13 S L5 AND PKA
L7	3 S L6 AND ALCOHOL
L8	60 S L4 AND BIDENTATE
L9	10 S L8 AND CARBONYLA?
L10	10 S L9 NOT L7
L11	1 S L10 AND METAL
L12	10 DUP REM L10 (0 DUPLICATES REMOVED)
L13	9 S L10 NOT L11
L14	6 S PRIMARY ALCOHOL (P) CARBON MONOXIDE (P) HYDROGEN
L15	1 S L14 AND LIGAND
L16	522 S ALCOHOL (P) CARBON MONOXIDE (P) HYDROGEN
L17	14 S L16 AND LIGAND
L18	1 S L17 AND BIDENTATE